## Bond Release Findings

**Mine Name:** Bonanza
**Operator:** American Gilsonite
HC 73 Box 28
Vernal, Utah 84078-9284

**I.D. No.:** M0470010
**Mineral Ownership:** Fee
**Surface Ownership:** Fee
**Permit Term:** Permit approved in 1985

**Disturbed Area:** About 112 acres
**Regraded:** 11.0 acres
**Reseeded:** 11.0 acres

**Acres Bonded:** About 112
**Acres Proposed for Release:** 10 acres proposed for full release; one acre proposed for partial release

**Surety**
**Amount:** $514,000.00
**Form:** Corporate Surety and Escrow Account
**Renewable Term:** 2005
**Amount Proposed to be Released:** $36,244.00

**Setting and Premining Environment**
The operator is proposing full and partial release of eleven different sites in various locations. Most are near the town of Bonanza, but four of the sites are in remote locations south of the White River. Premining conditions are similar in all of the areas. Soils are shallow, and vegetation communities range from pinyon/juniper to Wyoming big sage/grass. The sites are on relatively flat areas, but surrounding topography is varied.

**Operations**
The operator is proposing full or partial release for the following sites:

| Site | Land Ownership | Release Requested |
|---|---|---|
| R-2 | Patented Claim | Full |
| R-4 | Patented Claim | Full |
| H-2 | Fee | Full |
| H-10 | Patented Claim | Full |
| B-40 | Fee | Full |
| WH-12 | Fed. Lease U-073071 | Partial; complete except revegetation; bond held by Division |
| LE-5 | Fed. Lease U-0126938 | Full |
| LE-10 | Patented Claim | Full |
| LE-16 | Patented Claim | Full |
| LE-19 | Patented Claim | Full |
| LE-20 | Patented Claim | Full |

At each of these sites, underground mining methods were used to extract Gilsonite. Each site has a reclaimed shaft with about one acre of disturbance for hoists, ore bins, and other equipment.

**Hole Plugging**
Polyurethane foam was used to seal the escapeway shafts at H-2, H-10, and R-4. This was done in 2001 with a condition that there would be a minimum five-year evaluation period before the sites could be released. Steel supports with screw extensions were installed at a depth of six feet. Five feet of polyurethane foam was placed in the shafts with two layers of chain link fence reinforcement. The foam was then covered with a foot of soil. There has been no indication of failure at any of these sites.

Shafts at the other sites were all sealed with more traditional techniques, basically a concrete structure with footings placed on bedrock. The main shaft at H-2 and probably the one at LE-5 were covered with soil.

**Reclamation**
The history of sealing the shafts is sketchy. As mentioned above, the escapeway shafts at H-2, H-10, and R-4, and the main shaft at H-2 were sealed in 2001. LE-10 was sealed in 2003, and LE-20 was done in 2000. For the most part, the annual reports do not specify which shafts were sealed. Rather, they contain comments that a certain number of sites were reclaimed during the year.

***Mine Engineering***
It appears that all the caps and seals are secure and stable, including those that were sealed with polyurethane foam. Reinforced concrete was apparently used at the shafts that were closed with concrete, but the records are not complete. The Division is now requiring photo documentation of closure procedures, but this was not previously mandatory.

Except for the caps, all structures have been removed from all of these sites, and no public safety hazards remain. There are no highwalls or similar features that would cause concern.

Portions of the roads leading to H-2 and H-10 were not reclaimed, and these roads are being used for oil and gas operations. These roads are on patented or fee land owned by American Gilsonite. All other roads have been reclaimed.

***Hydrology***
The only site through which a drainage runs is H-10, and this drainage is stable. There are no signs of accelerated erosion at any of the sites, most of which are nearly level. There are no impoundments remaining in any of the areas.

***Revegetation***
The postmining land uses at all of these sites are grazing, wildlife habitat, and in the case of the roads, oil and gas development.

As documented in the report for the April 12, 2006, inspection, sites H-2, H-10, R-2, and R-4 have adequate vegetation cover to meet the criteria for full release. The vegetation includes seeded species, such as Indian ricegrass, winterfat, and wheatgrasses, and volunteer native species like rubber rabbitbrush and Wyoming big sage.

Vegetation at the other sites consists primarily of cheatgrass and halogeton, but there are a few native or seeded species. I did not measure cover from perennial species at any of these sites; the lack of perennial cover compared to undisturbed areas was clear.

**Recommendation**
I recommend that the Division fully release sites H-2, H-10, R-2, and R-4. The other sites the operator has proposed for full or partial release do not meet the revegetation requirements, but other aspects of reclamation have been completed. The surety for WH-12 is held by the Division, so before releasing it, the Division needs to obtain the concurrence of the Bureau of Land Management. LE-5 is also on federal land, but since the surety is held by the Bureau of Land Management, the Division can concur in the release at this time without actually releasing any surety.

The operator needs to reseed sites B-40, LE-5, LE-10, LE-16, LE-19, and LE-20. Site WH-12 should be evaluated to see whether the 2005 seeding has been successful.

Before seeding, the operator should consider using an herbicide or mechanical methods to control cheatgrass. They should contact a biologist with the Division or the BLM or the Utah State University Extension Service for suggestions.

I recommend that the operator and the Division continue to monitor the four sites sealed with polyurethane foam. This appears to be a good closure technique, but it would be good to have long-term data.

The Division has recalculated the surety for the Bonanza Mine, and this calculation assumes the surety is to be released as recommended in this memo.

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Inspector Date

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